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PATENT SPECIFICATION

DRAWINGS ATTACHED

Inventor: SOL R. LEDER

880,899

Date of Application and filing Complete Specification: Jan. 27, 1960.

No. 2978/60.

Complete Specification Published: Oct. 25, 1961.

Index at acceptance:—Class 28(1), D5.

International Classification:—A47j.

COMPLETE SPECIFICATION

ERRATUM

SPECIFICATION No. 880,899

Page 1, line 1, *for* "Rotis-O-Mat" *read* "Rotiss-O-Mat"

THE PATENT OFFICE

18th January, 1962

pinions are preferably located in key-hole like slots in the periphery of one of the end discs while the free ends of the spits, which may be pointed pass through plain apertures in the other end disc.

One convenient method of facilitating the introduction and locking of a spit in an end disc has been to provide the spit with a sliding sleeve which co-operates with a tapered bush adjacent a reduced diameter part of the spit. The reduced diameter portion is introduced into a slot by way of its restricted opening, the spit is moved axially to introduce the bush into the larger part of the slot and the sleeve is slid over the bush and retained in position by a thumb-screw.

These operations are performed manually and it is the object of the present invention to provide means whereby, after manual introduction of a spit into the restricted opening of a slot, locking is effected automatically upon rotation of the central spindle.

This is achieved, according to the invention, by replacing the sliding sleeve by a fixed locking member positioned outwardly of said reduced diameter part and joined thereto by a tapering surface and providing means on and

[*Price* ...

Figure 4 is a diagrammatic elevation, partly in section, showing the manner in which the spits are locked in the slots of the end disc, and

Figures 5 and 6 are sections on the lines V—V and VI—VI of Figure 4.

The cooking apparatus shown in Figure 1 includes a metal casing 1 fitted with a rear door 2, hinged at 3 to open outwards and downwards, the handle 4 of which co-operates with a pivoted latch 5. In the casing is a rotatable spit assembly comprising metal end discs 6 and 7 fixed to a central spindle 8 rotatably mounted in the end walls of the casing and driven by an electric motor 9 through reduction gearing 10 both carried on the casing on the outside of one end wall. Between the end discs are mounted seven spits (Fig. 3) spaced equidistantly around the periphery of the discs and consisting of metal rods 11, pointed at one end, which passes through a number of chickens or other articles of food to be cooked (not shown). The end of each spit remote from the pointed end carries a planet pinion 12 which meshes with a stationary sun pinion 13 bolted to the adjacent end wall of the casing so that as the spit

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COMPLETE SPECIFICATION

Improvements in and relating to Cooking Apparatus

We, ROTIS-O-MAT LIMITED, a British Company, of 101 Farm Lane, Fulham, London, S.W.6, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to cooking apparatus of the kind in which a number of spits extend between, and are detachably and rotatably mounted in, two end discs or plates fixed upon a central power-driven spindle rotatably mounted in the end walls of a casing containing a heating device. The spits extend beyond one of the end discs and there carry planet pinions which mesh with a stationary sun pinion.

The ends of the spits carrying the planet pinions are preferably locked in key-hole like slots in the periphery of one of the end discs while the free ends of the spits, which may be pointed pass through plain apertures in the other end disc.

One convenient method of facilitating the introduction and locking of a spit in an end disc has been to provide the spit with a sliding sleeve which co-operates with a tapered bush adjacent a reduced diameter part of the spit. The reduced diameter portion is introduced into a slot by way of its restricted opening, the spit is moved axially to introduce the bush into the larger part of the slot and the sleeve is slid over the bush and retained in position by a thumb-screw.

These operations are performed manually and it is the object of the present invention to provide means whereby, after manual introduction of a spit into the restricted opening of a slot, locking is effected automatically upon rotation of the central spindle.

This is achieved, according to the invention, by replacing the sliding sleeve by a fixed locking member positioned outwardly of said reduced diameter part and joined thereto by a tapering surface and providing means on and associated with said sun pinion to move the spit axially in order to introduce said locking member into the larger portion of the slot when the spit assembly is rotated.

The invention will be described in detail with reference to the accompanying drawings, in which:—

Figure 1 is a rear perspective view of part of a cooking apparatus embodying the invention,

Figure 2 is an enlarged elevation, partly in section, of part of the right-hand end of the apparatus of Figure 1 with a portion of the casing broken away to show the method of introduction of a spit into a slot,

Figure 3 is a rear elevation, partly in section, and broken away at the centre, of the spit assembly and end walls of the casing,

Figure 4 is a fragmentary elevation, partly in section, showing the manner in which the spits are locked in the slots of the end disc, and

Figures 5 and 6 are sections on the lines V—V and VI—VI of Figure 4.

The cooking apparatus shown in Figure 1 includes a metal casing 1 fitted with a rear door 2, hinged at 3 to open outwards and downwards, the handle 4 of which co-operates with a pivoted latch 5. In the casing is a rotatable spit assembly comprising metal end discs 6 and 7 fixed to a central spindle 8 rotatably mounted in the end walls of the casing and driven by an electric motor 9 through reduction gearing 10 both carried on the casing on the outside of one end wall. Between the end discs are mounted seven spits (Fig. 3) spaced equidistantly around the periphery of the discs and consisting of metal rods 11, pointed at one end, which passes through a number of chickens or other articles of food to be cooked (not shown). The end of each spit remote from the pointed end carries a planet pinion 12 which meshes with a stationary sun pinion 13 bolted to the adjacent end wall of the casing so that as the spit

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assembly is rotated the planet pinions are also caused to rotate and thus rotate the spits so that the articles being cooked continuously rotate around the axis of the spit in addition to the rotation of all the spits around the axis of the spindle 8.

The peripheral width of the sun pinion is increased at 14 and gradually decreases again at 15 leaving an enlarged portion 16, for a purpose to be described, and except for the portion 16 the sun pinion is provided on its outside with a substantially radially projecting wall 17.

Each spit is provided with a bush 18 having a stepped outer surface which includes cylindrical portions 19 and 20, a tapering portion 21 and an outer collar 22, seen more clearly in Figure 4. Embracing the inner end of the portion 19 of the bush 18 is the inner end of a sleeve 23 having a groove 24 in its outer surface.

A spit is introduced into the interior of the casing 1 through the door 2 preferably with the aid of hook-ended tools carried by the operator which engage the pointed end and the groove 24 in the sleeve 23 respectively. The pointed end of the spit is inserted in an aperture in the end disc 6 and the portion 19 of the bush 18 is introduced radially into and passed through the restricted opening 25 of a slot in the end disc 7 positioned opposite the enlarged portion 16 of the sun pinion. The planet pinion on the spit can then engage and mesh with the portion 16 as seen in Fig. 4 and when the spindle 8 is rotated in the direction of the arrow 26 (Fig. 2) the planet pinion will be moved into contact with the wall 17 at the part 15 of the sun pinion and will thus be forced to the left, as seen in Fig. 4, until on its leaving the part 15 of the sun pinion the portion 20 of the bush 18 is engaged in the part 27 of the slot. Radial displacement of the spit is then prevented by the portion 20 of the bush and axial displacement by the wall 17.

It will be obvious that once the portion 19 is inserted in a slot in the end-disc no further manipulation on the part of the operator is required until the spit has to be removed.

Removal of a spit positioned opposite the enlargement 16 of the sun pinion is effected by an axial movement to bring the part 19 into the slot followed by a radial movement out of the slot.

WHAT WE CLAIM IS:—

1. Cooking apparatus of the kind described wherein each spit is provided inwardly of its planet pinion with porti ns f different diameter joined by a tapering portion, the smaller f said portions being capable of passing through the restricted opening of one of a series of slots in the periphery f an end disc and wherein means are provided on said sun pinion which upon rotation of said spindle move said spit axially until the larger of said portions enters said slot to lock the split against radial movement.

2. Cooking apparatus according to claim 1 wherein the peripheral thickness of a portion of said sun pinion is increased to enable it to mesh with the planet pinion of a spit when the smaller of said portions of the latter is introduced into a slot and is gradually reduced again in the direction of rotation of the spindle, this gradually narrowing portion and the part of the sun pinion of normal thickness being bounded on the outside by a wall which serves initially to force the spit axially into locking position and subsequently to retain it in said position.

3. Cooking apparatus according to claim 1 or 2 wherein said slot engaging portions of said spit are formed on the outer stepped surface of a bush thereon having an outer flange which, in the operative position of the spit, is interposed between the planet pinion and the outer face of the end disc.

4. Cooking apparatus according to claim 3 wherein each spit is provided inwardly of said bush with a sleeve, the outer end of which embraces the inner end of said bush and the surface of which is grooved for engagement by a hook-like tool carried by the operator when the spit is to be inserted in or removed from the apparatus.

5. Cooking apparatus of the kind described having means for locking the spits in operative position, substantially as hereinbefore described and as shown in the accompanying drawings.

Agents for Applicants:
HERON ROGERS & CO.,
Bridge House,
181, Queen Victoria Street, London, E.C.4.

Reference has been directed in pursuance of Section 9, subsection (1) of the Patents Act, 1949, to Patent No. 839,068.

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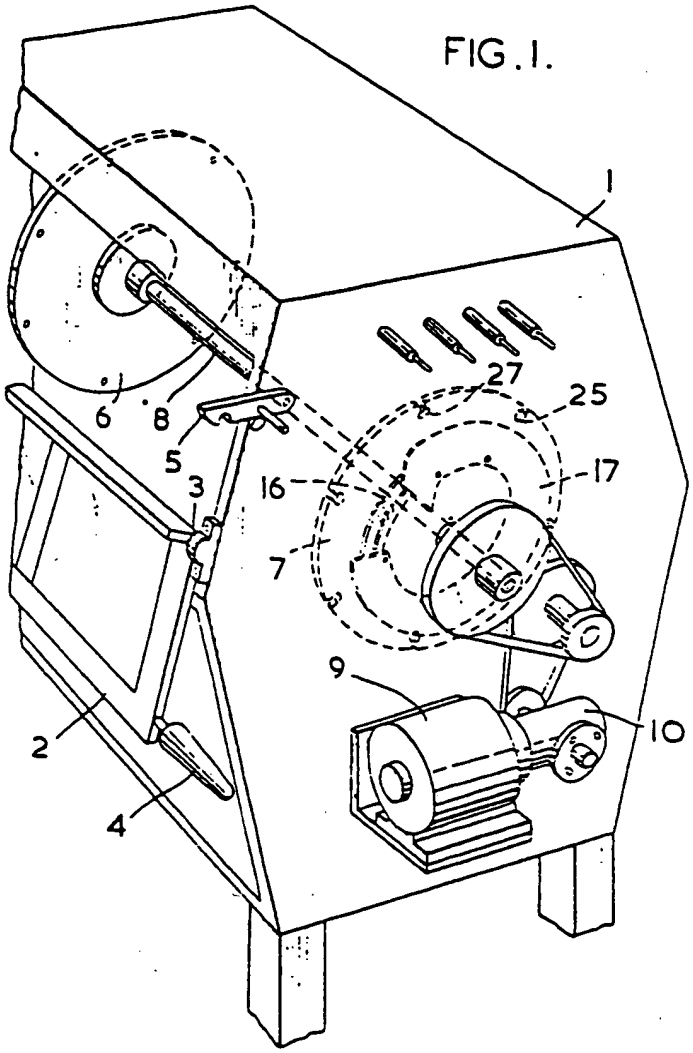
Published by The Patent Office, 25, Southampton Buildings, London, W.C.2, from which copies may be obtained.

FIG.1.



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3 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheets 1 & 3

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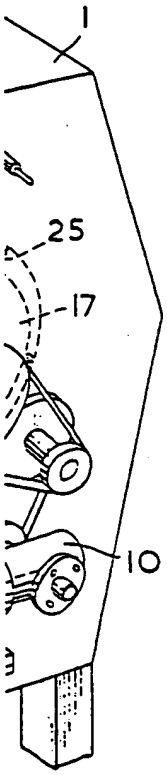


FIG.4.

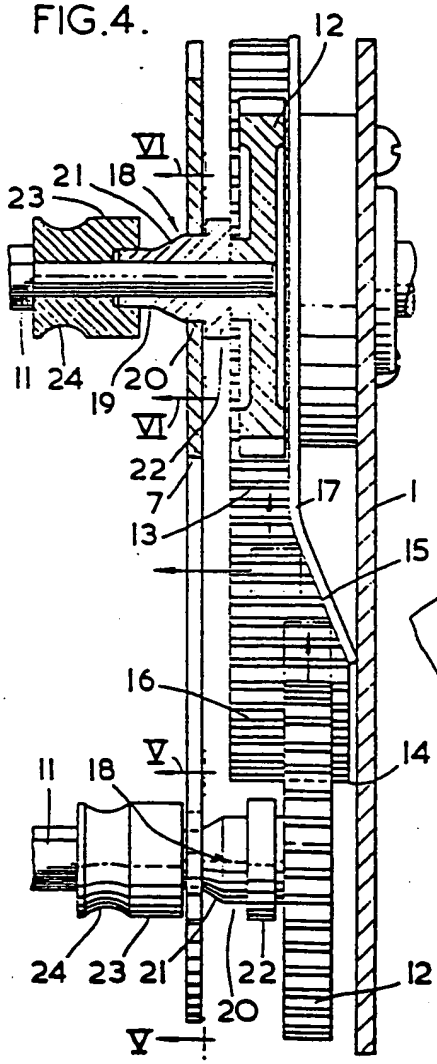


FIG.5.

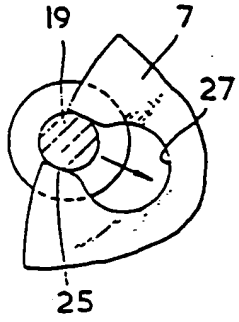
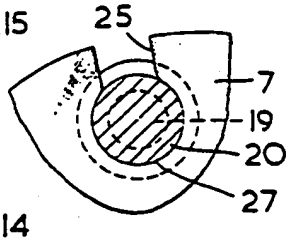


FIG.6.



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Sheets 1 & 3

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FIG.1.

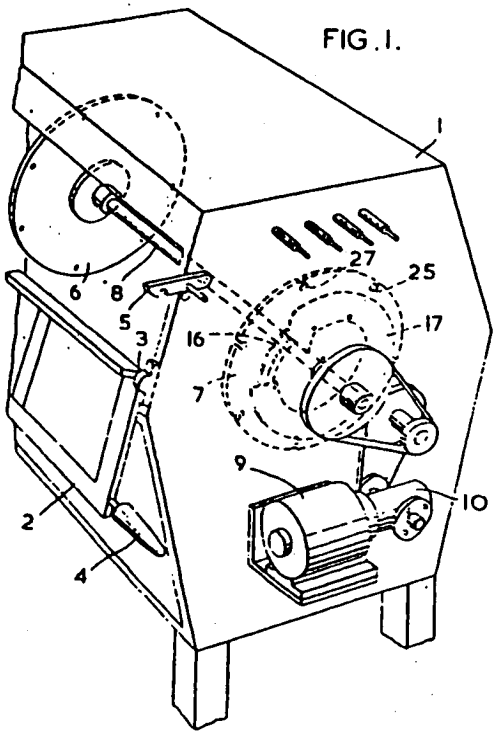


FIG.4.

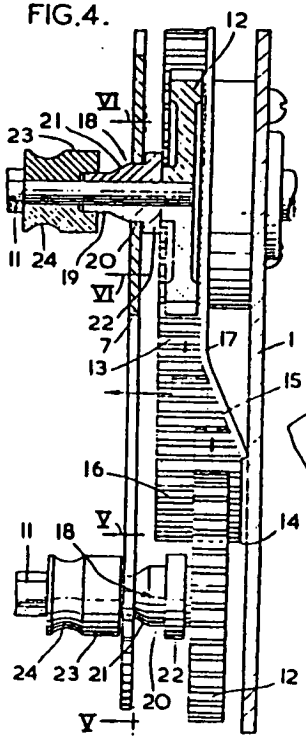


FIG.5.

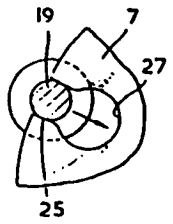
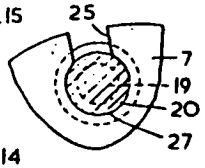


FIG.6.



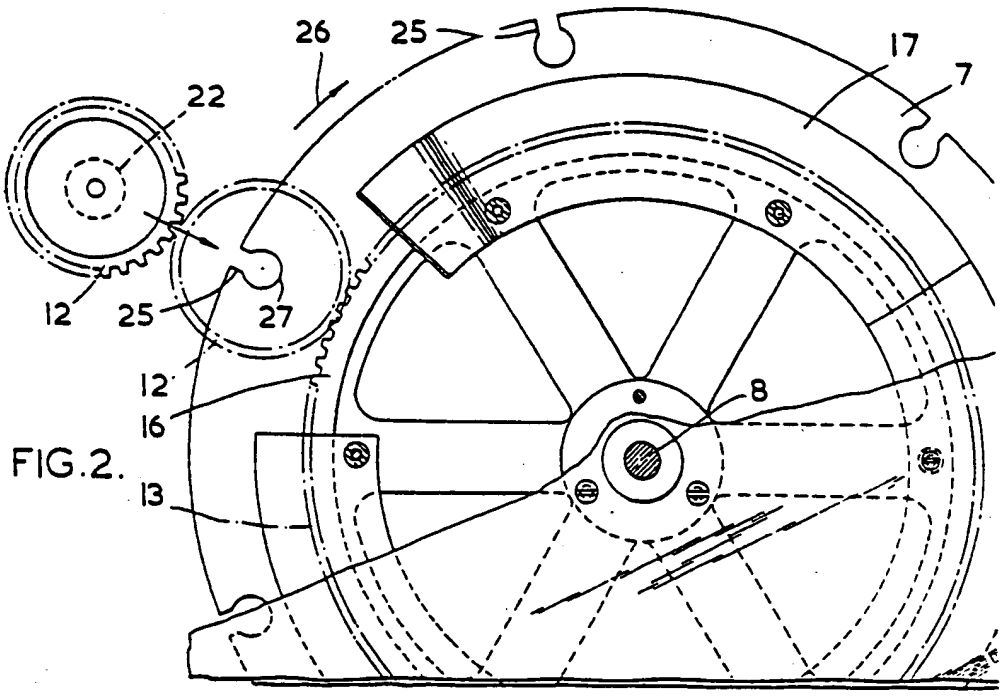
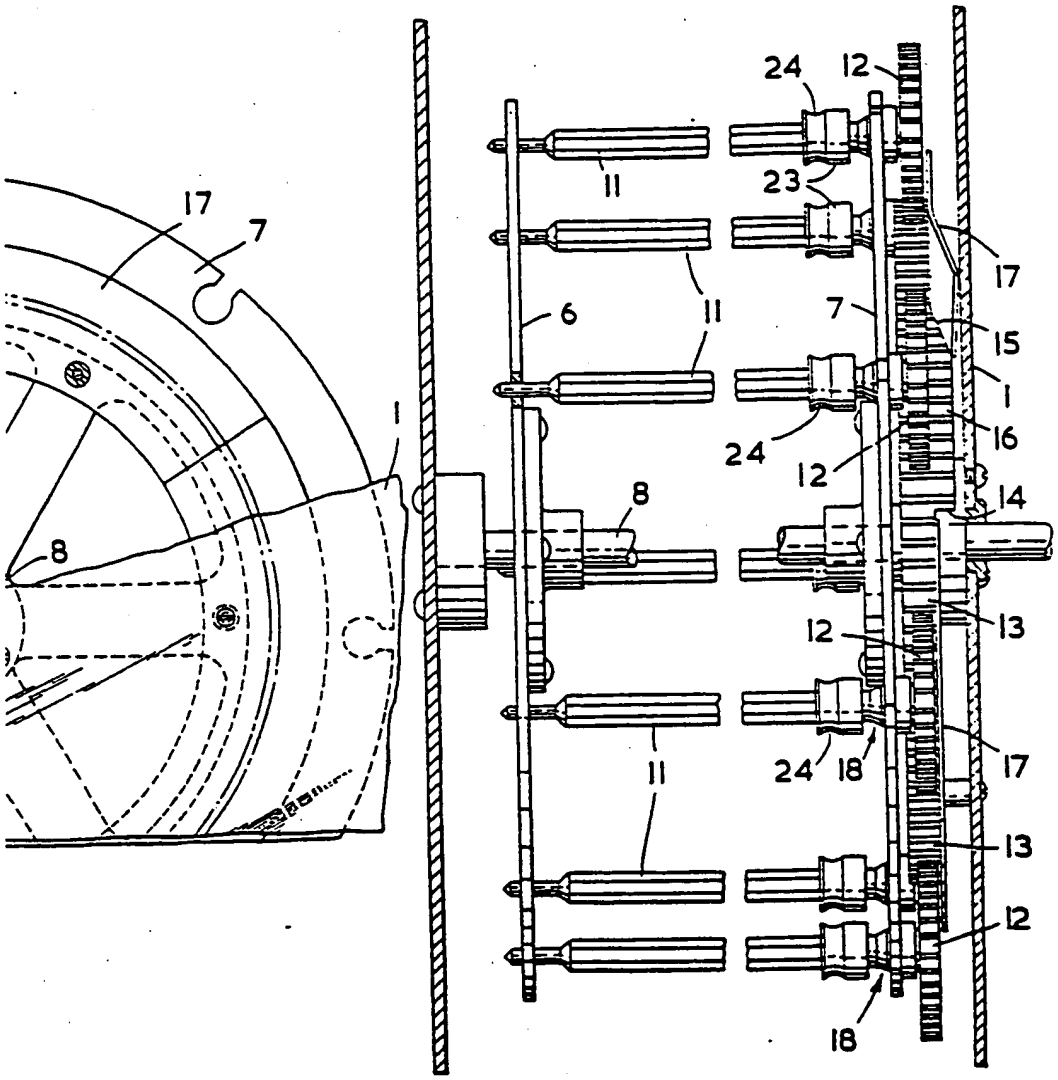


FIG.2.

FIG.3.



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Sheet 2

FIG.2.

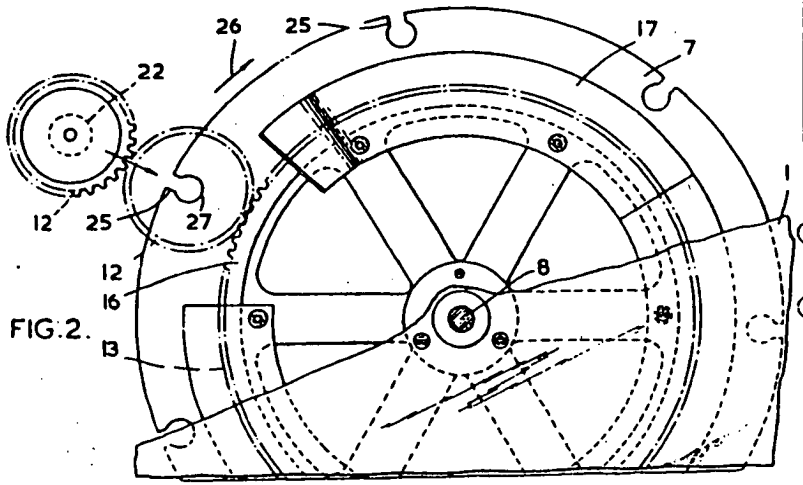
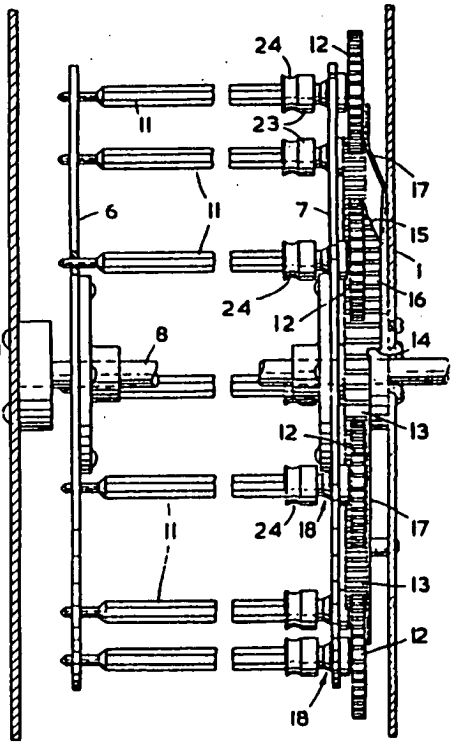


FIG.3.



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